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ABSTRACT

The New York City Board of Education's Comprehensive Instructional Management Systems-Communication Arts (CIMS-CA) project is described in this report. The introductory section provides background information on the project (implemented in 1980), the primary goal of which was to develop a holistic communication arts curriculum for kindergarten through grade eight, a corresponding test component, and a computer management system. This section also describes the program objectives for 1984-85, including continued implementation of curriculum and staff development, and developing pilot assessment instruments. The remainder of the report describes the 1984-85 evaluation of the CIMS-CA project, to document the level and quality of program implementation and to assess the program's impact on student achievement in reading and writing. The second section describes the program's components, including administration, instrument development, and staff development activities. The third section presents reactions to and perceptions of the program's instructional component, including effectiveness and weaknesses. The fourth section presents the methodology and results of the student reading and writing evaluation, which indicated improvement in both areas over the course of the year. The final section presents several conclusions based on analysis of program data, with recommendations to continue (1) monitoring dissemination efforts of the program for quality control, (2) providing staff development, (3) monitoring and revising tests, and (4) evaluating and revising curricula. (HTH)

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FINAL EVALUATION REPORT

March, 1986

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COMPREHENSIVE INSTRUCTIONAL MANAGEMENT SYSTEMS COMMUNICATION ARTS 1984-85

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SUMMARY

The goal of the New York City Board of Education's Comprehensive Instructional Management Systems-Communication Arts (CIMS-CA) project is to develop a holistic communication arts curriculum for kindergarten through eighth grade, a corresponding test component, and a computer management system. This project began in 1980. Teachers developed the curriculum and the test component with the intent to integrate the four content areas in communication arts--reading, writing, listening, and speaking. The project was funded in 1984-85 by a New York State Legislative grant for $600 thousand. In addition, funds were provided by Community School Districts (C.S.D.s) 11 and 30, and services were provided by C.S.D. 15. During 1984-85, CIMS-CA operated in C.S.D.s 11, 30, and 15. C.S.D.s 20, 18, 22, 24, and 13, as well as several non-public schools, were informally affiliated with the project.

During 1984-85 the project's objectives were to:

- Continue to implement the kindergarten though grade six communication arts curriculum in C.S.D. 15, and to begin to implement it in C.S.D.s 11 and 30, which were participating in the CIMS-CA project for the first time.
- Develop and pilot assessment instruments for kindergarten through grade six communication arts curriculum in C.S.D. 15, and to begin to implement it in C.S.D.s 11 and 30.
- Identify those areas of the fourth and fifth grade communication arts curriculum in need of revision.
- Develop a communication arts curriculum and test plans for seventh and eighth grades.
- Develop a computer management system.
- Provide staff development to teachers and administrators in C.S.D.s 11 and 30.

The New York City Board of Education's Office of Educational Assessment/Instructional Support Evaluation Unit (O.E.A./I.S.E.U.) conducted both a qualitative and a quantitative evaluation of the program. Highlights of major findings were as follows:

- CIMS-CA students performed significantly higher than non-CIMS-CA students on a standardized reading test.

- CIMS-CA students made statistically significant and moderate to large educational gains from fall to spring in writing. They also scored significantly higher than non-CIMS-CA students. in C.S.D. 11, but not in C.S.D. 30.

- Teachers were extremely positive about the training they received concerning curriculum use and test development.

- The curriculum revision process for kindergarten through grade three is almost completed.

- The process of identifying areas of need in the fourth and fifth grades curriculum has been initiated and will continue through 1985-86.

- The instrument development component of the program got off to a late start, but survey instruments and assessment tests were developed and piloted.

- The two new C.S.D.s, 11 and 30, have begun extensive implementation of the CIMS-CA curriculum.

- Development and piloting of a curriculum for the seventh and eighth grades has been largely successful, and areas in need of revision were identified through feedback.

Based on these findings, the following specific recommendations are made:

- Continue to monitor dissemination efforts of the CIMS-CA curriculum so that methods, processes, and materials are used appropriately.

- Continue efforts to provide ongoing staff development for teachers; in particular, address teachers' requests for more demonstration lessons, conferences, and observations.

- Continue to monitor and revise tests so that they are used appropriately.

- Continue to regularly evaluate and revise the curriculum.

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I. INTRODUCTION

PROGRAM BACKGROUND

The goal of the New York City Board of Education's Comprehensive Instructional Management Systems-Communication Arts project (CIMS-CA)* is to develop a holistic communication arts curriculum for kindergarten through eighth grade, a corresponding test component, and a computer management system. Teachers developed the curriculum and the test component with the intent to integrate the four content areas in communication arts: reading, writing, listening, and speaking.

As in previous years, the program was funded by a New York State Legislative grant. In 1984-85, this grant was for $600 thousand. Funds were also provided by Community School Districts (C.S.D.s) 11 and 30, which were participating in the CIMS-CA project for the first time. Services were provided by C.S.D. 15, which had been participating in CIMS-CA since July, 1980.

During the first three years of the project (1980-83), project staff developed a communication arts curriculum for kindergarten through sixth grade. They began implementation of this curriculum for kindergarten through third grade. In addition, they provided staff development for teacher users.**

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*This project, begun in 1980, was formerly called the Instructional Management Project in Communication Arts. For more information about previous years of project implementation, see New York City Public Schools' "An Evaluation of the Instructional Management Project in Communication Arts," MEDARP, 1981; "An Evaluation of the Instructional Management Project in Communication Arts, "MEDARP, 1982; "An Evaluation of the Instructional Management Project in Communication Arts, 1982-83, MEDARP Documentation Unit, 1983; and "Comprehensive Instructional Management Project-Communication Arts," 1983-84, Instructional Support Evaluation Unit, 1985.

**Teachers who have used the curriculum during 1984-85.

During 1983-84, the curriculum for kindergarten through fifth grade continued to be implemented, and revisions continued to be made on the curriculum for kindergarten through third grade. In addition, the sixth grade curriculum was used for the first time, and received support from the sixth grade teachers. These teachers especially valued the curriculum for the following reasons: it had been developed by teachers; its educational objectives were concise; its underlying philosophy and themes were accessible; and, it was easily integrated into other subject areas. It was reported, at that time, that many junior high schol reading and communication arts teachers were also using the sixth grade CIMS-CA curriculum as a supplement to the standard junior high school curriculum. Ongoing staff development efforts facilitated teacher use of this new curriculum.

Also during 1983-84, project-sponsored workshops to develop end-of-theme tests were conducted weekly. End-of-theme tests are designed to help teachers in the following ways: to identify students' strengths and weaknesses in the areas of reading, speaking, listening, and writing; to select the next appropriate theme for classroom instruction; and to plan lessons. One end-of-theme test was developed per grade level for grades two through six. These tests were piloted, analyzed, and prepared for full implementation during the 1984-85 school year.

POPULATION SERVED

During 1984-85, CIMS-CA operated in C.S.D.s 15, 11, and 30. C.S.D.s 11 and 30 were participating in CIMS-CA for the first time. C.S.D. 15 had been participating since July, 1980. C.S.D.s 20, 18, 22, 24, and 13 were also informally affiliated with the project. Several nonpublic schools

also participated, but were not considered part of the project. Altogether, 300 teachers in C.S.D. 15 used the CIMS-CA curriculum, and 90 teachers each in C.S.D. 30, and in C.S.D. 11.

The students served by CIMS-CA were, for the most part, in kindergarten through sixth grade. However, a project goal for 1984-85 was to develop and pilot a curriculum for seventh and eighth grade students, as well.

PROGRAM OBJECTIVES

During 1984-85, the CIMS-CA program objectives were as follows:

- Continue to implement the kindergarten through sixth grade curriculum in C.S.D. 15, and begin to implement it in C.S.D.s 11 and 30, which were participating in the CIMS-CA project for the first time.
- Provide staff development to teachers and administrators in C.S.D.s 11 and 30.
- Develop and pilot assessment instruments for kindergarten through sixth grade.
- Identify areas of the fourth and fifth grades communication arts curriculum in need of revision, and continue revisions on the kindergarten through third grade curriculum.
- Develop a computer management system.
- Develop a communication arts curriculum and test plans for the seventh and eighth grades.

PROGRAM EVALUATION

The purpose of the 1984-85 evaluation by the Office of Educational Assessment/Instructional Support Evaluation Unit (O.E.A./I.S.E.U.) was to document the level and quality of program implementation, and to assess the program's impact on student achievement in reading and writing.

This evaluation focused on the program's activities in kindergarten through eighth grade in C.S.D.s 11, 30, and 15.

The following methods were used to evaluate the program:

- Interviews with the six project staff members: the project manager, the research manager, and the four staff development managers. These interviews focused on describing: each staff member's activities; project goals and administrative staff's perceptions of the achievement of these goals; how the program operated in each district; rating of staff development efforts; assistance offered to teachers and administrators; curriculum and test development and use efforts; identification of program's strengths and weaknesses; and, recommendations for next year.

- A questionnaire (Teacher Users Survey) given to 50 teachers who had used the CIMS-CA curriculum. The teacher users survey emphasized: teachers' experience with the CIMS-CA curriculum; their perceptions of its usefulness; their plans for using the curriculum in the future; ratings of staff development activities; and identification of the program strengths and weaknesses.

- A questionnaire (Test Developers Survey) completed by 29 teachers who had worked on developing CIMS-CA curriculum and test plans for grades seven and eight. The test developers survey focused on describing: their experience with the CIMS-CA curriculum; test development workshops and rating their usefulness; perceptions of end-of-theme tests validity; the piloting of the tests; revisions; and, identification of the curriculum's strengths and weaknesses.

- A questionnaire (Curriculum Developers Survey) completed by 17 teachers who worked on developing CIMS-CA curriculum for grades seven and eight. The seventh and eighth grade curriculum developers survey gathered information on: their experience with the CIMS-CA curriculum; their perceptions of its usefulness; their plans for using it in the future; and identification of the seventh and eighth grade curriculum strengths and weaknesses.

- Observations were made of staff development workshops.

- Students' scores on standardized readings tests and holistically scored writing samples were analyzed.

SCOPE OF THE REPORT

This report presents the results of the evaluation of the 1984-85 CIMS-CA program. Project components and implementation are discussed in Chapter II. Staff reactions to and perceptions of the instructional component are presented in Chapter III. Student outcome data are presented and analyzed in Chapter IV, and conclusions and recommendations are offered in Chapter V.

II. PROGRAM COMPONENTS

PROGRAM ADMINISTRATION

During 1984-85, CIMS-CA operated with six project staff members: a project manager; a research manager; and four staff development managers. The project manager supervised the CIMS-CA project and disseminated information about CIMS-CA activities to others. One staff development manager supervised CIMS-CA activities in C.S.D. 15, focusing on the revision of the kindergarten through third grade curriculum. One staff development manager supervised the implementation of CIMS-CA activities in C.S.D. 11, and another supervised implementation in C.S.D. 30. The fourth staff development manager was responsible for the development and implementation of the seventh and eighth grade curriculum in C.S.D. 15. In general, the staff development managers introduced the CIMS-CA project in their districts, acted as liaisons between the project and the district administrators, observed participating teachers, and conducted weekly teacher workshops. The research manager, hired in February, 1985, conducted test development workshops and helped to implement the assessment program.

CURRICULUM

The CIMS-CA curriculum and the test component for kindergarten through grade eight, which are both developed by teachers, integrate all the four content areas in communication arts: reading, writing, listening and speaking. The curriculum provides concise educational objectives developed around thematic material which can be easily integrated with other subjects.

In addition, it includes concrete teaching strategies. Major curriculum objectives for the 1984-85 year were: to identify areas of the fourth and fifth grade curriculum in need of revision and to develop seventh and eighth grade curriculum.

Fourth and Fifth Grade Curriculum Revision

A major objective of the 1984-85 CIMS-CA project was to begin the process of identifying areas of the fourth and fifth grade curriculum in need of revision. (The final decisions on which areas will be revised will be made during the 1985-86 school year.) The process of identification consists of collecting feedback sheets, analyzing feedback, and then compiling a list of lessons in need of revision. According to project staff, this process was initiated in 1984-85.

Kindergarten Through Third Grade Curriculum Revision

Revision of the curriculum for kindergarten through third grade has been ongoing since the inception of the CIMS-CA Project in 1980. Feedback forms have been collected since then in order to ascertain teachers' reactions to this curriculum. In 1983-84, some of the teachers who had been curriculum developers made revisions based on the information from feedback forms, and during 1984-85, this process was continued. Staff development managers reported that the revision of the curriculum for kindergarten through third grade was almost complete. In addition, the teachers' manuals for the kindergarten through grade three curriculum have been completed. Both curriculum and manuals were to be printed in June, 1985.

Seventh and Eighth Grade Curriculum

Development of the seventh and eighth grade curriculum began in the summer of 1984 in C.S.D. 15 and was ongoing throughout the 1984-85 school year. Writing and planning of the curriculum took place in workshops led by the staff development manager and occasionally by the project manager. Those workshop participants, who were junior high school teachers, piloted individual lessons and collected feedback. Revisions were made on the basis of feedback sheets, and the revised lessons were then disseminated to other CIMS-CA teacher/users.

The staff development manager reported that 13 teachers were involved in the development and piloting process*: eight in C.S.D. 15; three in C.S.D. 30; and two in C.S.D. 11. All 13 teachers attended curriculum development workshops.** Almost all the participants (92 percent) responded to the workshop questionnaire. Nine respondents identified themselves as curriculum users.***

According to the staff development manager, 70 percent of the workshop content focused on curriculum writing. The staff development manager stated that workshop participants developed learning objectives by exploring existing curricula for kindergarten through sixth grade and then by developing CIMS-CA themes for the seventh and eighth grades. The staff development manager reported that other topics covered in the workshops included instruction in directed reading, test development, implementation of the Regents' plan, teaching strategies, and methods of evaluating students' writing.

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*Additional teachers from C.S.D.s 11, 15, and 30 also participated in the piloting process.

**Teachers participating in curriculum development workshops will be referred to as curriculum developers.

***These teachers will be referred to as curriculum developers/users.

INSTRUMENT DEVELOPMENT

An important component of the CIMS-CA Project was the development of tests which would help teachers to assess student knowledge of the communication arts. The research manager, hired in February, 1985, conducted workshops to train teachers in test development and test revision.* Participants developed survey instruments for incoming students, as well as end-of-theme tests for each grade level (kindergarten through sixth grade). The completed instruments were to match the CIMS-CA outcomes with thematically organized activities. The workshops were designed to: decide which outcomes to test for; develop a test plan; select materials to be used in the test; write test items; review tests developed by other workshop participants; and to make suggestions for revision on tests developed by other workshop participants.

Placement Instruments

One objective of the instrument development component was the development of an instrument for each grade which would enable teachers to identify the level and skills of students beginning the CIMS-CA curriculum. A test to identify the listening and speaking skills of elementary school students was developed and piloted. According to the project manager, the revision of this test was to begin in July, 1985.

End-of-Theme Tests

Participants also worked toward their goal of developing end-of-theme tests for each of the three themes covered in the curriculum at each grade level (kindergarten through sixth grade). These tests were designed to help teachers in the following ways: to identify students' strengths and

*Teachers participating in these workshops will be referred to as test developers.

weaknesses in the areas of reading, speaking, listening, and writing; to help teachers select the next appropriate theme for classroom instructions; and to plan lessons. End-of-theme tests consisted of two compnents: a reading comprehension component and a listening and speaking component in which students were asked to respond verbally to poetry passages. All items reflected CIMS-CA outcomes and activities.

According to the project manager, three end-of-theme tests were written. Two tests were piloted. The third test was to be piloted in fall, 1985. Plans were underway to begin revision of this test in January, 1986.

Thirty teachers participated in piloting the two end-of-theme tests. These tests were piloted mostly in C.S.D. 15. In addition, a few non-public schools in which teachers were test developers also participated. One end-of-theme test was successfully piloted, revised, and completed during 1984-85. Major revisions of the second test will be made during the 1985-86 school year.

COMPUTER MANAGEMENT SYSTEM

Linked to the CIMS testing component is a district-based computer management system. Its major functions are to provide teachers with prompt test results to facilitate instructional planning and to give administrators information useful for monitoring communication arts instruction and for making long-range educational decisions. The development of CIMS-CA computer management system began in 1984-85 and is expected to be completed during 1985-86 with implementation to begin after that.

STAFF DEVELOPMENT ACTIVITIES

During 1983-84, CIMS-CA staff development had consisted mainly of site visits, demonstration lessons, weekly workshops, and observations by project staff to provide assistance to users of the kindergarten through sixth grade curriculum in C.S.D. 15. Also, project staff had sponsored some workshops on curriculum and test development.

In 1984-85, staff development efforts were expanded. Project staff offered weekly curriculum and test development workshops in C.S.D. 15. This district also continued to receive site visits, demonstration lessons, and observations. Teachers in the two new districts, C.S.D.s 11 and 30, attended weekly workshops in curriculum implementation, observed demonstration lessons, and received classroom observations.

The project manager stated that teachers and administrators received additional support from teacher manuals, student resource packs, and instructional supplies. In addition, 45 participating teachers and 1,500 students were sent to a play as part of an oral communication component. Lessons were developed to prepare students for viewing the play and teacher workshops were offered to help in implementing these lessons.

Staff Development in C.S.D.s 11 and 30

During 1984-85, CIMS-CA expanded its staff development activities to include two new C.S.D.s, 11 and 30. Two additional staff development managers were assigned, one to each of the two new districts, to supervise the implementation of CIMS-CA activities in these districts.

Teachers in CIMS-CA schools in these two districts participated in the project on a volunteer basis. In C.S.D. 11, eleven schools were involved and 85 teachers participated. In C.S.D. 30, seven schools were involved

and 75 teachers participated. Teachers in these districts participated in two levels of staff development; some teachers attended summer workshops which met over a period of eight days and then attended after-school workshops twice a month during the school year. Other teachers received demonstration lessons, made site visits, and participated in individual conferences with project staff.

Staff Development for Administrators

The staff development managers also provided staff development to administrators in C.S.D.s 11 and 30. Some administrators became very involved with CIMS-CA activities, while others had less time to devote to this project. Some administrators attended meetings with deputy superintendents and project staff; other administrators participated in individual conferences with project staff. The staff development managers from C.S.D.s 11 and 30 both stated that such staff development was good.

Content of Staff Development Workshops

CIMS-CA staff development workshops in C.S.D.s 11 and 30 covered a number of topics including specific strategies to: teach writing as a process; adapt curricula for English as Second Language (E.S.L.) students; integrate curricular areas; help students appreciate literature and poetry; and effectively use audiovisual aids, and questioning techniques.

III. REACTIONS TO AND PERCEPTIONS OF INSTRUCTIONAL COMPONENT

CURRICULUM DEVELOPMENT WORKSHOPS

According to the staff development manager, the training and support provided to curriculum developers during the workshops adequately equipped them to meet their responsibilities so that no additional assistance was needed. The CIMS-CA project manager believed that the development of the writing component took longer than was expected because some participants were less experienced in curriculum writing than others.

Overall, the results of the curriculum developers survey were positive. Almost all the participants (88 percent) reported that the workshop were "very useful" (the highest rating in this category) in preparing them for developing the seventh and eighth grade curriculum. Respondents were asked to rate the usefulness of the workshops to their own development. Participants rated the following skill areas extremely-to-moderately useful: writing effective lesson (83 percent); assessing classroom materials (75 percent) teaching integrated language arts (75 percent) and relating communication skills to other content areas (58 percent).

The majority (75 percent) of the participants reported receiving sufficient assistance from CIMS-CA staff in developing the seventh and eighth grade curriculum. However, 33 percent stated that they needed a more specific explanation of CIMS-CA format and phraseology. CIMS-CA participants listed "feedback from other professionals" (91 percent) as the most valuable aspect of the curriculum development process.

In addition to participating in the curriculum development process, 16

percent served as resource persons to teachers using other levels of the CIMS-CA curriculum in their schools.

PILOTING OF THE CURRICULUM

After individual lessons were developed, they were disseminated to users. According to the staff development manager, a total of 35 teachers piloted the curriculum (15 seventh grade teachers and 20 eighth grade teachers). Information in this section is based on the questionnaire responses of those participants in the curriculum development workshops who were also teacher/users. (They will be referred to as curriculum developers/users.)

In general, the response to piloting the curriculum was very favorable. Over three-quarters of the participants (77 percent) said they did not experience any problems in piloting the CIMS-CA curriculum; a third (33 percent) found the lessons too long; and one respondent thought the lesson format was too rigid.

Most seventh and eighth grade teachers expressed support for the CIMS-CA curriculum because of the involvement of teachers in its development, its thematic approach, and its emphasis on all strands of language arts. Almost all the respondents perceived some difference between the seventh and eighth grade CIMS-CA curriculum and other language arts curricula. Typical examples of these differences were that CIMS-CA is more comprehensive and detailed than other language arts curricula; it targets specific skills more effectively and places a greater emphasis on listening and speaking skills. Two-thirds of the participants (67 percent) indicated that they wanted very much to use the CIMS-CA curriculum next year, while thirty-three percent reported moderately wanting to do so.

REACTIONS TO TESTING

Reactions to both surveys and end-of-theme tests were favorable. The research manager reported receiving very favorable comments from the State Education Department, and teachers reported having received only minimal criticism from other teachers about their tests. All test developers reported that the tests measured the four major skill areas (listening, speaking, reading, writing) very-to-moderately well. The majority of test developers (90 percent) thought the tests measured very-to-moderately well the following learning objectives: literal comprehension; inferential thinking; and evaluative thinking. Recommendations for test revision were that the tests be shortened and that teachers' directions be made clearer.

STAFF DEVELOPMENT

A total of 17 teachers from six schools in C.S.D. 30 responded to the O.E.A.-developed survey assessing staff development. In C.S.D. 11, twenty-one teachers from ten schools responded. In C.S.D. 30, fifteen teachers identified themselves as classroom users of curriculum and ten identified themselves as classroom users of curriculum and ten identified themselves as workshop participants. In C.S.D. 11, all the teachers identified themselves as curriculum developers, and three teachers identified themselves as classroom users of the curriculum. In addition, all the teachers in C.S.D. 11 identified themselves as resource persons to others using the curriculum. All participants in both districts attended the workshops, met with CIMS-CA staff, participated in classroom observations, demonstration lessons, and reviews of lesson plans.

Reactions to staff development in both districts were favorable. All participants in C.S.D. 30 reported receiving sufficient individual assistance in implementing the curriculum. In C.S.D. 11, 81 percent of participants stated that individual assistance was sufficient.

Half of the surveyed teachers in C.S.D. 11 (52 percent) and C.S.D. 30 (47 percent) listed the workshops as the most valuable of the staff development activities. More specifically, teachers mentioned workshops focusing on the writing process and on demonstration lessons.

Ninety-five percent of the teachers participating in the training in C.S.D. 30 found the training very helpful. A smaller proportion of participants (29 percent) in C.S.D. 11 found it very helpful, while 57 percent found it moderately helpful. Forty-two percent of the teachers in C.S.D. 11 who had found the training moderately helpful cited a need for more demonstration lessons, conferences, and observations.

Assistance provided by other than CIMS-CA staff was perceived for the most part as "moderate to minimal." Respondents were asked about assistance provided by curriculum developers, and school suprvisors. In C.S.D. 30, almost half the participants (48 percent) reported receiving minimal to moderate assistance from district curriculum developers, and 35 percent reported receiving no assistance at all. In C.S.D. 11, 52 percent reported no additional assistance from curriculum developers; 28 percent, however, reported having received "very much" assistance. Assistance given by school supervisors in C.S.D. 30 was reported as having been minimal or nonexistent; and in C.S.D. 11, 76 percent reported receiving no assistance from school supervisors.

The project manager and the four staff development managers felt that increased involvement with CIMS-CA could be achieved by increasing the number of CIMS-CA workshops available to teachers. Overall, workshop participants and teacher/users suggested that there be more discussions, visits, and specific feedback among grade level teachers, and that CIMS-CA have more exposure in a greater number of schools.

Reactions to Test Development Workshops

The majority of respondents stated that their participation in test development workshops had had a positive effect on their teaching of the curriculum. Teachers reported that they had a better understanding of curriculum aims and that they could teach more effectively because they were better able to separate and identify individual skill areas. They were also able to choose materials more discriminatingly.

PERCEPTIONS OF CIMS-CA'S INDIVIDUALITY AND EFFECTIVENESS

Teacher/users, workshop participants, curriculum developer/users, and test developer/users were all asked about the differences between CIMS-CA and other language arts curricula. Respondents were asked to focus on how well the CIMS-CA curriculum can be integrated into other school subject areas and whether the fact that teachers had developed the curriculum had been beneficial.

Teacher/users of the seventh and eighth grade curriculum, in particular, perceived the CIMS-CA curriculum as differing from other language arts curricula because it targets specific skills more effectively and places a greater emhpasis on listening and speaking skills. The majority of both teacher/users and workshop participants thought that CIMS-CA highly

promoted the integrated use of listening, speaking, reading, and writing skills. All survey respondents, including those using the curriculum for kindergarten through sixth grade, found the curriculum very appropriate to the interests of their students. The majority also found the curriculum very-to-moderately adaptable for children with different skill levels.

PERCEPTIONS OF CURRENT USE OF CIMS-CA

Participants were asked to describe their current use of CIMS-CA. The majority of workshop participants and teacher/users in C.S.D. 30 said they used CIMS-CA mainly as a supplement to the standard curriculum. Most test developers also used CIMS-CA as a supplement because there was not enough time for both the mandated curiculum and CIMS-CA. The majority of workshop participants in C.S.D. 11 reported using CIMS-CA in equal proportion with other curricula. The majority of responding teachers in C.S.D. 15 used CIMS-CA as a supplement; again, the main reason given for this type of curriculum use was that there wasn't enough time for both CIMS-CA and the mandated curriculum.

Nearly all curriculum developers, test developers, and workshop participants stated that they would like to continue to use CIMS-CA in 1985-86. Of the 59 teacher/users from C.S.D.s 15, 30, and 11, 86 percent would use the CIMS-CA curriculum next year.

PERCEPTIONS OF PROGRAM WEAKNESSES

The project manager stated that the instrument development component of the 1984-85 CIMS-CA project might have been more successful had the research manager been able to assume her responsibilities before February,

1985. The project manager also believe that developing the seventh and eighth grade curriculum took longer than expected because some curriculum developers were less experienced in curriculum writing than others.

Some of the seventh and eighth grade curriculum developers reported the need for a more specific explanation of CIMS-CA format and phraseology during the curriculum development workshops. One-third of the teachers piloting the curriculum for the seventh and eighth grade mentioned that the curriculum was too long. One teacher also believed that the lesson format was too rigid.

IV. STUDENT OUTCOMES

METHODOLOGY

To determine the effect of the CIMS-CA program on students' reading achievement, analyses of students' reading test scores on the California Achievement Test (CAT) were conducted. This test consists of vocabulary and reading comprehension subtests, which are combined to yield a Total Reading score. These tests are administered annually in the spring to all students in second through ninth grade in New York City Public Schools.

Teachers using the CIMS-CA curriculum in 1984-85 were identified by CIMS-CA staff; their students were described as CIMS-CA students. Students whose scores were included in the analyses came from C.S.D.s 15, 11, and 30. The analyses compared the 1985 reading normal curve equivalent scores (N.C.E.s)* of a sample of CIMS-CA students with the reading N.C.E. scores of a sample of non-CIMS-CA students for grades two through six. T-tests were computed to determine if the achievement differences for CIMS-CA and non-CIMS-CA students were statistically significant. Statistical significance is computed to determine whether the changes in achievement are real or occur by chance. Statistical significance can be affected by the size of the sample; i.e., large samples usually yield significant changes. Furthermore, statistical significance does not address the issue of whether the achievement changes are important to the students' educational development. Thus, an effect size (E.S.)** indicating the educational meaningfulness of the

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*N.C.E. scores are similar to percentile ranks but, unlike percentile ranks, are based on an equal-interval scale. N.C.E. scores are based on a scale ranging from one to 99 with a mean of 50 and a standard deviation of approximately 21. Because N.C.E. scores are equally spaced apart, arithmetic and statistical calculations such as averages are meaningful; in addition, comparisons of N.C.E. scores may be made across different achievement tests.

**See next page for a definition of E.S.

mean gain or loss for each comparison is also calculated. An E.S. is not affected by the size of the sample, and furthermore, it better reflects the importance of the changes to the students' educational development.

To assess improvement in writing skills of project students, writing samples of CIMS-CA students in C.S.D.s 11, 30, and 15 and a sample of non-CIMS-CA students in C.S.D.s 11 and 30 were collected in the fall of 1984 and the spring of 1985. These samples were holistically scored. Correlated t-tests for the CIMS-CA students in the three participating districts were computed to determine if the gains were statistically significant. An effect size (E.S.)* indicating the educational meaningfulness of the mean gain or loss for each comparison was also calculated. Furthermore, analyses of covariance were calculated to compare CIMS-CA and non-CIMS-CA writing achievement. Pretest scores were held as a covariate to control for initial differences in the two groups.

RESULTS IN READING

The comparison of spring, 1985 test scores for CIMS-CA and non-CIMS-CA students in grades two through six are presented in Table 1 (Vocabulary), Table 2 (Reading Comprehension), and Table 3 (Total Reading). When 1985 scores were compared across grades and districts, CIMS-CA students showed significantly higher Reading Comprehension, Vocabulary and Total Reading scores than non-CIMS-CA students. In the comparisons by grade, reading

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*The effect size, developed by Jacob Cohen, is the ratio of the mean gain to the standard deviation of the gain. This ratio provides an index of improvement in standard deviation units irrespective of the size of the sample. According to Cohen, 0.2 is a small E.S., 0.5 is a moderate E.S., and 0.8 is considered to be a large E.S. Only effect sizes of 0.8 and above are considered to be educationally meaningful, reflecting the importance of the gains to the students' educational development.

Table 1

Analysis of 1985 N.C.E. Vocabulary Scores of CIMS-CA and Non-CIMS-CA Students in Grades 2 through 6 on the CAT

Grade	CIMS-CA N	CIMS-CA Mean	CIMS-CA S.D.	Non-CIMS-CA N	Non-CIMS-CA Mean	Non-CIMS-CA S.D.	Mean Difference	Effect Size
2	311	55.6	17.0	6,403	52.6	18.4	3.0[a]	0.2
3	671	56.8	18.0	8,291	52.3	21.0	4.5[b]	0.2
4	282	59.5	16.2	8,743	52.2	17.4	7.3[b]	0.4
5	385	55.3	17.4	5,886	53.5	19.0	1.8	0.0
6	353	53.6	15.3	8,131	53.8	17.7	-0.2	0.0
Total	2,002	55.6	17.1	37,454	52.8	18.5	2.8[b]	0.2

[a]This difference was significant at $p < .001$.
[b]These differences were significant at $p < .0001$.
[c]This difference was significant at $p < .002$.

- CIMS-CA students' vocabulary scores were higher than those of non-CIMS-CA students in grades two through five and significantly higher in grades two, three and four.

- The overall mean difference in vocabulary scores among CIMS-CA and non-CIMS-CA students was 2.8 N.C.E.s. This difference was statistically significant.

Table 2

Analysis of 1985 N.C.E. Reading Comprehension of CIMS-CA and Non-CIMS-CA Students in Grades 2 through 6 on the C.A.T.

Grade	CIMS-CA N	CIMS-CA Mean	CIMS-CA S.D.	Non-CIMS-CA N	Non-CIMS-CA Mean	Non-CIMS-CA S.D.	Mean Difference	Effect Size
2	311	54.0	18.9	6,403	50.5	18.9	3.5[a]	0.2
3	671	58.8	18.6	8,291	52.7	20.8	6.1[b]	0.3
4	282	61.6	17.1	8,743	53.8	17.5	7.8[b]	0.5
5	385	59.0	18.4	5,886	55.9	20.0	3.1[c]	0.2
6	353	57.4	16.2	8,131	55.4	18.3	2.0[c]	0.1
Total	2,002	58.2	18.0	37,454	53.7	18.9	4.5[b]	0.3

[a] This difference was statistically significant at $p < .005$.
[b] These differences were statistically significant at $p < .0001$.
[c] These differences were statistically significant at $p < .05$.

- CIMS-CA students' Reading Comprehension scores were significantly higher than those of non-CIMS-CA students in grades two through six.

- The overall mean difference in Reading Comprehension scores among CIMS-CA and non-CIMS-CA students was 4.5 N.C.E.s. This difference was statistically significant.

Table 3

Analysis of 1985 N.C.E. Total Reading Scores of CIMS-CA and Non-CIMS-CA Students in Grades 2 through 6 on the CAT

Grade	CIMS-CA N	CIMS-CA Mean	CIMS-CA S.D.	Non-CIMS-CA N	Non-CIMS-CA Mean	Non-CIMS-CA S.D.	Mean Difference	Effect Size
2	311	58.2	22.6	6,403	54.1	22.1	4.1[a]	0.2
3	671	60.6	19.6	8,291	54.7	22.2	5.9[b]	0.3
4	282	61.0	16.3	8,743	52.2	17.3	8.8[b]	0.5
5	385	57.7	17.0	5,886	55.0	19.0	2.7	0.2
6	353	55.8	15.7	8,131	54.9	18.0	0.9	0.1
Total	2,002	58.9	18.7	37,454	54.1	19.4	4.8[b]	0.3

[a] These differences were statistically significant at $p < .005$.
[b] These differences were statistically significant at $p < .0001$.

- CIMS-CA students' Total Reading Scores were higher than those of non-CIMS-CA students in grades two through five and significantly higher in grades two, three and four.

- The overall mean difference in Total Reading scores among CIMS-CA and non-CIMS-CA students was 4.8 N.C.E.s. This difference was statistically significant.

Table 4

Analysis of 1985 N.C.E. Reading Scores of
CIMS-CA and Non-CIMS-CA Students on the CAT
by Subtest and District

		CIMS-CA			Non-CIMS-CA			Mean	Effect
Subtest	C.S.D.	N	Mean	S.D.	N[a]	Mean	S.D.	Difference	Size
Vocabulary	11	467	58.6	17.4	12,450	53.2	17.1	5.4[b]	0.3
	15	948	55.4	16.9	11,263	50.2	18.7	5.2[b]	0.3
	30	705	53.9	17.2	12,636	51.9	18.9	2.0[c]	0.1
Reading Comp.	11	467	58.7	17.3	12,450	53.4	17.4	5.3[b]	0.3
	15	948	58.0	18.5	11,263	51.9	18.8	6.1[b]	0.3
	30	705	57.0	17.9	12,636	53.2	19.3	3.8[b]	0.2
Total Reading	11	467	61.7	19.9	12,450	53.9	17.4	7.8[b]	0.4
	15	948	57.7	18.4	11,263	52.1	19.4	5.6[b]	0.3
	30	705	56.9	17.9	12,636	53.6	20.0	3.3[b]	0.2

[a]The total number of non-CIMS-CA students in this table is smaller than the numbers in Tables 1, 2 and 3 because some students did not have district information.

[b]These differences were statistically significant at $p < .0001$.
[c]This difference was statistically significant at $p < .005$.

- CIMS-CA students in C.S.D.s 11, 15 and 30 scored significantly higher in Vocabulary, Reading Comprehension and Total Reading than non-CIMS-CA students in those three districts.

scores of CIMS-CA students were generally significantly higher than those of non-CIMS-CA students in grades two to six.

The comparisons of spring, 1985 test scores for CIMS-CA and non-CIMS-CA students by C.S.D. are presented in Table 4. In the comparisons by district, CIMS-CA students in all three C.S.D.s scored significantly higher in Vocabulary, Reading Comprehension, and Total Reading than non-CIMS-CA students in those three districts. Overall, CIMS-CA students made small educational gains (E.S.=0.2) over non-CIMS-CA students.

RESULTS IN WRITING

The results of the comparisons of fall, 1984 to spring, 1985 writing achievement for CIMS-CA students in C.S.D.s 11, 15 and 30 are presented in Table 5. As shown in this table:

- CIMS-CA students in C.S.D.s 11, 15 and 30 made statistically significant gains of over 10 points from fall, 1984 to spring, 1985.
- Overall, CIMS-CA students made a moderate educational writing gain of 14 score points (E.S. = 0.7).
- The writing gains in each district were educationally moderate for C.S.D.s 15 (E.S. = 0.6) and 30 (E.S. = 0.5), and educationally large for C.S.D. 11 (E.S. = 1.2).

Table 6 presents the results of the analysis of covariance computed to compare CIMS-CA and non-CIMS-CA students' writing achievement in C.S.D.s 11 and 30 with pretest scores held as a covariate. The comparisons between the two groups show that CIMS-CA students' spring, 1985 adjusted writing scores were higher than those of non-CIMS-CA students in both districts. These differences were only significant for students in C.S.D. 11.

Table 5

Comparison of Holistically Scored Writing Samples of
CIMS-CA Students; Fall, 1984
and Spring, 1985 by District

District	N	Pretest Mean	Pretest S.D.	Posttest Mean	Posttest S.D.	Mean[a] Difference	S.D. Mean Diff.	E.S.
11	54	20.6	17.8	42.8	23.9	22.2	17.8	1.2
30	65	38.1	23.2	48.9	20.4	10.8	19.9	0.5
15	87	28.4	22.7	40.2	23.2	11.8	18.7	0.6
Total	206	29.4	22.6	43.6	22.7	14.2	19.4	0.7

[a]All comparisons were significant at $p < .001$.

- CIMS-CA students in C.S.D.s 11, 30 and 15 showed significant gains of over 10 points.
- Comparisons for C.S.D.s 15 and 30 showed moderate effect size, while the comparison for C.S.D. 11 showed a large effect size.

Table 6

Analyses of Covariance on Holistically Scored Spring, 1985 Writing Samples for CIMS-CA and Non-CIMS-CA Students by District

District	CIMS-CA			Non-CIMS-CA			Mean Difference
	N	Adjusted Mean	S.D.	N	Adjusted Mean	S.D.	
11	54	42.8	23.9	66	37.7	23.6	5.1[a]
30	65	48.9	20.4	67	48.1	21.8	0.8
Total	119	46.1	22.7	133	42.9	23.2	3.2

[a]This difference was significant at $p < .08$.

- CIMS-CA students in C.S.D.s 11 and 30 scored higher than non-CIMS-CA students in those districts. These differences were significant only for C.S.D. 11.

V. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The goal of the New York City Board of Education's Comprehensive Instructional Management Systems-Communication Arts (CIMS-CA) project is to develop a holistic communication arts curriculum for kindergaten through eighth grade, a corresponding test component, and a computer management system. Both the curriculum and the test component are developed by teachers and both attempt to integrate all four content areas in communication arts--reading, writing, listening, and speaking. During 1984-85, CIMS-CA operated in Community School Districts (C.S.D.s) 15, 11, and 30. The purpose of this evaluation was to document the level and quality of program implementation, and to assess the program's impact upon student achievement in reading. The findings summarized below show during 1984-85 that CIMS-CA project was successfully implemented in two new C.S.D.s: 11 and 30 and continued to be successfully implemented in C.S.D. 15.

Major conclusions based on analyses of program data were as follows:

- Scores of CIMS-CA students were compared with those of the non-CIMS-CA students on a standardized reading test (CAT). Among all students in general education, CIMS-CA students had significantly higher reading scores than non-CIMS-CA students. Comparisons of CIMS-CA students writing samples from fall, 1984 and spring, 1985 show statistically significant gains for students in C.S.D.s 11, 30 and 15. These gains represented moderate to large effect sizes. CIMS-CA students' writing samples from spring, 1985 on C.S.D.s 11 and 30 were higher than non-CIMS-CA students writing samples. These differences were only statistically significant for C.S.D. 11.

- Teachers in the three participating C.S.D.s were extremely positive about the staff development workshops concerning curriculum use and test development. In addition, teachers responded favorably to the site visits,

demonstration lessons, and observations provided by project staff. The majority of teachers stated that the individual assistance they had received from project staff was sufficient, and that the workshops were the most valuable aspect of staff development. Administrators had also participated in staff development activities, although their time was more limited.

- The instrument development component of the program got off to a late start, but survey instruments and assessment tests are currently being developed and piloted. A survey test to identify the listening and speaking skills of elementary school students was developed and piloted, but feedback has not yet been collected. Three end-of-theme tests were written: one test was developed, piloted, revised, and completed during 1984-85; a second test was piloted briefly and major revisions of it are to be made in 1985-86; a third test was to be piloted in fall, 1985. Reactions to the tests by the State Education Department and by other teachers were favorable. The project manager believed that the instrument development and piloting might have been more successfully carried out if the research manager had been able to assume her duties prior to February, 1985.

- The process of identifying areas of the fourth and fifth grade curriculum in need of revision was successfully initiated; the final decisions on which areas will be revised are to be made in 1985-86.

- The process of revising the kindergaten through third grade curriculum (which had begun in 1980) was almost completed and the teacher's manuals for the kindergarten through third grade curriculum has been completed. Both the curriculum and manuals were to be printed in June, 1985.

- Development of the computer management system (a software program for assessment) has not yet been completed. Completion of this program component is a long range goal. Development of such a system began in 1984-85. Project staff expect the development process to be completed in 1985-86 and implementation to begin after that.

- Development and piloting of a curriculum for the seventh and eighth grades has been largely successful, and areas in need of revision are being identified through feedback. The curriculum development workshops were perceived by both administrators and teachers to have been beneficial. Teachers stated that they had learned about curriculum development and had also been aided in their personal growth as teachers. The project manager believed that developing

the seventh and eighth grade curriculum took longer than expected because some curriculum developers were less experienced than others in curriculum writing. Some of the seventh and eighth grade curriculum developers reported the need for a more specific explanation of CIMS-CA format and phraseology during the curriculum development workshops. One-third of the teachers piloting the curriculum mentioned that the curriculum was too long, and one teacher believed that the lesson format was too rigid.

- Teacher/users of the seventh and eighth grade curriculum, in particular, perceived the CIMS-CA curriculum as differing from other language arts curricula because it targets specific skills more effectively and places a greater emphasis on listening and speaking skills. The majority of teacher/users and workshop participants in all grade levels thought that CIMS-CA highly promoted the integrated use of listening, speaking, reading, and writing skills, was very appropriate to the interests of their students, and was adaptable for children with different skills levels.

- Nearly all curriculum developers, test developers, and workshop participants stated that they would like to continue to use CIMS-CA in 1985-86.

RECOMMENDATIONS

On the basis of the evaluation finding, the following recommendations are made:

- Continue to monitor dissemination efforts of the CIMS-CA curriculum so that methods, processes, and materials are used appropriately.

- Continue efforts to provide ongoing staff development for teachers; in particular, address teachers' requests for more demonstration lessons, conferences, and observations.

- Continue to monitor and revise tests so that they are used appropriately.

- Continue to regularly evaluate and revise the curriculum.